

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A photovoltaic device, comprising a composition of carbon nanotubes and of at least one organic compound acting as a hole conductor.

Claim 2 (Currently Amended): The device according to claim 1, ~~characterized in that~~ wherein it further comprises:

- a first electrode on one side of said composition of carbon nanotubes and of at least one hole conductor, said first electrode having a first work function, and
- a second electrode on another side of said composition of carbon nanotubes and of at least one hole conductor, said second electrode having a higher work function than said first work function.

Claim 3 (Currently Amended): The device according to ~~any of the foregoing claims,~~ ~~characterized in that~~ claim 1, wherein said at least one hole conductor is a conjugated polymer or a blend of at least two conjugated polymers.

Claim 4 (Currently Amended): The device according to ~~any of the foregoing claims,~~ ~~characterized in that~~ claim 1, wherein said carbon nanotubes are a mixture of metallic and semiconducting carbon nanotubes, ~~preferably only semiconducting carbon nanotubes.~~

Claim 5 (Currently Amended): The device according to ~~any of the foregoing claims,~~ ~~characterized in that~~ claim 1, wherein said carbon nanotubes are a mixture of multi-walled and single-walled carbon nanotubes, ~~preferably only single-walled carbon nanotubes.~~

Claim 6 (Currently Amended): The device according to ~~any of the foregoing claims, characterized in that~~ claim 1, wherein the carbon nanotubes have a diameter in the range of from 0.5 nm to 2 nm.

Claim 7 (Currently Amended): The device according to ~~any of the foregoing claims, characterized in that~~ claim 1, wherein the band gap of said carbon nanotubes lies in the range of from about 0.5 to about 1 eV.

Claim 8 (Currently Amended): The device according to ~~any of the foregoing claims, characterized in that~~ claim 1, wherein the band gap of said at least one hole conductor lies in the range of from about 1 eV to 3 eV, ~~preferably from about 1.5 eV to 2.5 eV, more preferably from about 1.75 eV to 2.25 eV.~~

Claim 9 (Currently Amended): The device according to ~~any of the foregoing claims, characterized in that~~ claim 1, wherein said hole conductor is selected from the group comprising semiconducting organic materials with a band gap above 1 eV and a Π -orbital higher in energy than the highest occupied molecular orbital (HOMO) of said carbon nanotubes.

Claim 10 (Currently Amended): The device according to ~~any of the foregoing claims, characterized in that~~ claim 1, wherein said composition of carbon nanotubes and of at least one organic hole conductor comprises a mixture of carbon nanotubes and at least one hole conductor.

Claim 11 (Currently Amended): The device according to ~~any of claims 1-9,~~
~~characterized in that~~ claim 1, wherein said composition is a two-layer-system, wherein said at
least one hole conductor is in one layer and said carbon nanotubes are in another layer.

Claim 12 (Currently Amended): The device according to ~~any of claims 1-9,~~
~~characterized in that~~ claim 1, wherein said composition is a multiple-layer-system, wherein
said at least one hole conductor and said carbon nanotubes are in alternating layers.

Claim 13 (Currently Amended): The device according to ~~any of claims 2-12,~~
~~characterized in that~~ claim 2, wherein said carbon nanotubes have been vertically grown;
~~preferably on one of said electrodes.~~

Claim 14 (Currently Amended): The device according to ~~any of claims 2-13,~~
~~characterized in that~~ claim 2, wherein a hole conductor is directly grown on said carbon
nanotubes (“overgrown nanotubes”).

Claim 15 (Currently Amended): The device according to ~~any of claims 2-12 and 14,~~
~~characterized in that~~ claim 2, wherein said carbon nanotubes have been horizontally aligned;
~~preferably on one of said electrodes.~~

Claim 16 (Currently Amended): The device according to ~~any of the foregoing~~
~~claims, characterized in that~~ claim 1, wherein said at least one hole conductor is selected from
the group ~~comprising~~ consisting of:

polymethacrylates and derivatives, ~~e. g. bis (diarylamino) biphenyl functionalised~~
~~methacrylates and copolymers thereof,~~

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polyaniline and derivatives,
polyphenylene and derivatives,
polyphenylene vinylene and derivatives, e. g. ~~poly(2-methoxy, 5-(3', 7'-
dimethyloctyloxy) 1,4-phenylene vinylene (MDMO-PPV),~~
polythiophene and derivatives,
copolymers of triphenyl diamine derivatives and trimethoxyvinylsilane,
poly(3,4-ethylenedioxythiophene: polystyrene sulfonic acid) (PEDOT: PSS),
polyacetylene and derivatives thereof,
polyparaphenylene and derivatives thereof,
polypyrrole and derivatives thereof,
polyparaphenylene sulfide and derivatives thereof,
polycarbazole and derivatives thereof,
polyisothianaphene and derivatives thereof,
poly(1,6-heptadiyne) and derivatives thereof, and
polyquinoline and derivatives thereof.

Claim 17 (Currently Amended): The device according to ~~any of claims 1-16,~~
~~characterized in that~~ claim 1, wherein it is an organic solar cell.

Claim 18 (Currently Amended): The device according to ~~any of claims 2-17,~~
~~characterized in that~~ claim 2, wherein said first and/or said second electrode is a film or layer
of a transparent material.

Claim 19 (Currently Amended): The device according to ~~any of claims 2-18,~~
~~characterized in that~~ claim 2, wherein said first or second electrode is a metallic electrode.

Claim 20 (Currently Amended): The device according to ~~any of claims 2-19,~~
~~characterized in that~~ claim 2, wherein said first and/or said second electrode is coated with an
evaporated layer of fluoride or acetate, ~~e. g. LiF, CsF, CH₃COOLi,~~ or a combination of
fluoride and acetate.

Claim 21 (Currently Amended): The device according to ~~any of claims 18-20,~~
~~characterized in that~~ claim 2, wherein it additionally comprises a solid inorganic crystalline or
glassy substrate, or a metal foil substrate, preferably a stainless steel foil substrate, or a
polymer substrate pre-coated with said first or said second electrode.

Claim 22 (Currently Amended): The device according to ~~any of claims 18-20,~~
~~characterized in that~~ claim 18, wherein it additionally comprises a flexible polymer substrate
pre-coated with said first or said second electrode.

Claim 23 (Currently Amended): A combination of the device according to ~~any of the~~
~~foregoing claims~~ claim 1 with a circuit, wherein the device ~~according to any of the foregoing~~
~~claims~~ acts as an internal power supply.

Claim 24 (Currently Amended): ~~Use of the device according to any of claims 1-22 as~~
a A solar cell comprising the device according to claim 1.

Claim 25 (Currently Amended): A method of generating electricity from light,
~~characterized in that~~ wherein a device according to ~~any of claims 1-22~~ claim 1 or a
combination according to claim 23 is irradiated by light, whereupon a photo-initiated charge-

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separation process and subsequently a charge-transport process occurs, and wherein further electricity is recovered from said device or from said combination.